

**Notice of Allowability**

Application No.

10/648,345

Examiner

Lam P. Pham

Applicant(s)

YASUCHI, MITSUO

Art Unit

2636

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 2/21/2006.
2. ☒ The allowed claim(s) is/are 1-9, 11-13 and 15-19.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                      |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance             |
|   | 9. <input type="checkbox"/> Other _____  |

**DETAILED ACTION**

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Paul Fournier on February 21, 2006.

The application has been amended as follows:

In claim 1, line 3: change "an object" to "a person".

In claim 1, line 6: change "object" to "person".

In claim 2, line 3: change "object" to "person".

In claim 3, line 3: change "object" to "person".

In claim 5, line 3: change "object" to "person".

In claim 6, line 3: change "object" to "person".

In claim 8, line 3: change "object" to "person".

In claim 9, line 3: change "object" to "person".

In claim 11, line 2: change "an object" to "a person".

In claim 11, line 5: change "object" to "person".

In claim 15, line 3: change "object" to "person".

In claim 16, line 3: change "object" to "person".

In claim 17, line 5: change "an object" to "a person".

In claim 17, line 8: change "object" to "person".

Cancel claims 10, 14 and 20.

***Allowable Subject Matter***

2. Claims 1-9, 11-13, 15-19 allowed, (renumbered as 1-17).

3. The following is an examiner's statement of reasons for allowance:

There is no prior art fairly teach or suggest a fatigue-level estimation apparatus (claim 1) comprising:

a heart rate calculator configured to receive a signal indicative of a heartbeat of a person to be estimated to calculate a heart rate signal changing sequentially in time; and

a fatigue level estimator configured to estimate a fatigue level of the person by detecting a sharp and transient rise in the heartbeat in the heart rate signal calculated by the heart rate calculator.

There is no prior art fairly teach or suggest a fatigue-level estimation method (claim 11) comprising the steps of:

receiving a signal indicative of a heartbeat of a person to be estimated to calculate a heart rate signal changing sequentially in time; and

estimating a fatigue level of the person by detecting a sharp and transient rise in the heartbeat in the calculated heart rate signal.

There is no prior art fairly teach or suggest a computer-readable program (claim 17) for estimating a fatigue level, the program being executed by a computer provided in a fatigue-level estimation apparatus, the computer achieving the functions of:

heart rate calculating means for receiving a signal indicative of a heartbeat of a person to be estimated to calculate a heart rate signal changing sequentially in time; and

fatigue level estimating means for estimating a fatigue level of the person by detecting a sharp and transient rise in the heart rate in the heartbeat signal calculated by the heart rate calculating means.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

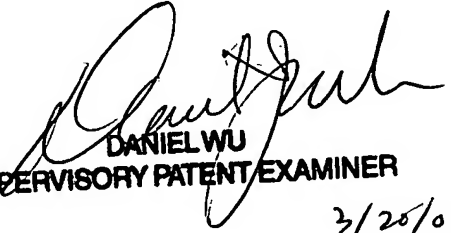
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lam P. Pham whose telephone number is 571-272-2977. The examiner can normally be reached on 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery A. Hofsass can be reached on 571-272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lam Pham  
March 7, 2006

  
DANIEL WU  
SUPERVISORY PATENT EXAMINER  
3/20/06